Patrick T. Stout

On the Banks of the Maumee:

transforming an urban wasteland into an innovative, sustainable park

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LA 404 Comprehensive Project

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ABSTRACT

The project examined a greyfield site just outside of the downtown district in Fort Wayne, Indiana. Because of its location along the Maumee River, the riverfront land is outlined in the comprehensive plan for Allen County to '*redevelop and celebrate the three river's waterfronts*.' The site's previous state was one of disconnect to the surrounding communities. The designer examined how this site could become a connecting hub for the neighborhoods and create strong social and cultural ties. In order to provide an alternative, unique park experience that was more than ball diamonds and open grasslands, there needed to be a focus on active engagement with the environment through spaces such as learning landscapes, research labs, and sustainable technology development.

The southern portion of the site was analyzed as being the least likely to flood, even though its original label was stated as being in the floodway. One building on the site was reused to aid in the preservation of the site's industrial character and acted as a community center. Other structures included satellite research labs for students actively involved in new courses offered at the nearby Indiana Tech University. A few small, start-up sustainable technology companies were to occupy incubator spaces that worked in conjunction with the college students as new, innovative designs were introduced and applied into the landscape. The inspiration for the park space on the site's northern portion was a direct result of the ecology that once inhabited the region before industrialization. Marshlands were recreated to educate children within the learning landscape, as they also interacted with these new sustainable developments. The lowlands of the marsh were designed in a way to circulate the flood waters as they rise in the spring, still leaving access to the educational spaces and elevated paths. Such calibration and exposure between people and the environment will act as a positive reinforcement for community members where engagement and interactive experiences can take place for all.

ACKNOWLEDGEMENTS

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This project, which culminated a year long process was a direct result of the help of many people. I would first like to thank my studio professors Chris Marlow (my advisor), John Motloch, and Burcu Yigit Turan. Several knowledgeable people throughout Fort Wayne have helped me get the information I need to make this project possible; Tim Pancake, Tom Cain, Geoff Paddock, Maureen Voors, and Don Arvin.

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INTRODUCTION

The first rule of open space design is that it must serve the needs and functions of the surrounding community while providing an aesthetic beauty that enhances its successfulness, or efficiency. A park that does not properly address the concerns of the surrounding community ends up as an abandoned wasteland of inefficiency. Post-industrial greyfields present great opportunities for redevelopment as communities look to revitalize the urban contexts to which they exist. The proposed site, almost 42 acres, was located in Fort Wayne, Indiana and east of the downtown district along the Maumee River.

This park was significant for not only the adjacent communities, but also for the city. It brought people together for an active and healthy lifestyle that may not have been apparent at first glance. Leisure activities provided a different experience than grasslands, basketball courts, and gardens that had been typically associated with most of the city's parks. There was a need for the people of the city to have a place of human interaction and build relationships. The activities and experiences that took place at this innovative park gave residents stronger social ties; bringing children, college students, and adults together. Experimenting and interacting with sustainable technologies gave children a chance to educate themselves about what is to come for the future of Fort Wayne. It was important to not forget the history, but also to look ahead and create a strong identity for this region of the city.

The Learning Landscape

In today's culture, children tend to live a majority of their lives inside rather than going to parks with the same pre-fabricated equipment that exists almost everywhere (Hines 74). With the introduction of newer, better gaming systems, computer applications, and unsafe outdoor conditions, urban parks have become a mundane repetition throughout childhood. Surrounding educational institutions and a watershed's ecology on the greyfield site in Fort Wayne can provide opportunities for outdoor learning environments where people have a chance for personable interaction with each other and the features that encourage education.

Each child develops different styles of learning. One must review the basic foundation for where they come from. Three methods exist (Figure 1.1), each containing specific characteristics suitable for different children. The first is known as visual learners. They tend to learn from watching and use images from the past when attempting to remember something. They visualize the way certain things look in their head. This style is common in secondary students, tallying forty percent. Auditory learners can generally have a difficult time reading and don't visualize things as clearly. They listen and remember facts through different reading materials such as poems, melodies, or songs. Lastly, kinesthetic learners learn the best through manipulation, movement, and interaction. They tend to explore and understand why things are a certain way. This is considered the most common method of learning, recording fifty percent of all secondary students (University of Illinois Extension).

Figure 1.1. Children's Development Chart

Adapting a design for all age groups and different styles of learning can be important in the success and development of people within the community. It can give the region a strong identity and a place of gathering. This cannot be possible strong elements that make this park a special place where children and teens can learn, without a classroom setting and homework. Examples of the ideals that need to be implemented in Fort Wayne have already been done at a Science Park at the Montshire Museum in Vermont (Figure 1.2). Exhibits allow visitors to have hands on exploration. Children and parents can manipulate different features and use those properties to observe and interact (Hines 74).

Figure 1.2. *Montshire Science Park*

Elements of visualization are the first design aspects to be addressed. Pictorial representations throughout a park can be displayed in creative and interesting ways so that it does not become repetitive and boring. Pictures and common symbols through paving, paths, or signage can assist in the education of these children. Auditory learners can use sounds as its means of learning word and phrase association. With sustainability being a focus, the use of abstract noise such as wind traveling through or on things can have an impact. The sound of water not only creates an attractive white noise, but draws people in where its functions and purpose can be seen. Short auditory

narratives can also accompany spaces as children pass by or activate a space through their interaction. Kinesthetic learners, generally comprising majority of all children, allow for the greatest opportunity for places of interaction and exploration. I believe this ideal can be spread throughout the park and incorporate concepts from visual and auditory learners. This type of design can give all students the ability to become adventurous and creative when they move throughout the spaces. In an interview on the Science Park at the Montshire Museum, landscape architect Lynn Wolff was stated as saying that their research showed that "if you can isolate an exhibit, even in some small way, then kids aren't distracted" (Hines 78).

Allowing kids the greatest chance to explore and learn means providing with the best possible environment for such. Playing, catching, splashing, touching, feeling, and many more actions are what can become important criteria to build a solid park (Figure 1.3). Vegetation and hardscape play an important role. Each has specific characteristics that can enhance the experience and give children and adults these spaces where sustainability education can take place. Allocating adequate space where children and adults can gather, interact, and perform is crucial for the success of the place. The details and components that aid in the education of people at the space are what will make this a special and interesting space different than those of the surrounding parks.

Figure 1.3. *Montshire Science Park - Fountains*

Christopher De Sousa, an associate professor of the Department of Architecture and Urban Planning at UW-Milwaukee says that “urban sites are becoming more [desirable] because they are centrally located, attract a creative workforce, [and] have very good access to transportation” (Solomon 138). The potential re-use of urban structures already creates a strong sense of community because of its previous industrial use and the associated workforce that labored there on a daily basis. Two projects, Piedmont Triad Research Park (Figure 1.6) and South Lake Union carry a strong conceptual base for which the site in Fort Wayne can build from.

PTRP is located just outside of the main downtown district in Winston-Salem, North Carolina and is within two miles of the main health center to which its technologies and research are mainly focused. This is comparable to the use of the proposed site in Fort Wayne because it is being used for sustainable technology research by the local university located less than one mile away. The PTRP job looks to retain the historical context of the region while also turning this once industrial site into a mixed-use community focused on life sciences and information technology. A network of green spaces, courtyards, and plazas are incorporated throughout to offer access to nature and recreational activities (Solomon 140-141).

The South Lake Union redevelopment in Seattle, Washington was originally intended as a large park space but “the idea was put on the city ballot twice and voted down twice by Seattleans,” stated Sharon Coleman (Solomon 140). This eventually led to a mixed-use neighborhood with a focus of life sciences. The idea stemmed from previous uses around the site as well as its proximity to the University of Washington. Most infrastructure was in place as this site began redevelopment, which meant that new material was unnecessary.

These two research parks differ greatly in context and use, but also relate in the same basic function that can be carried over towards the Fort Wayne greyfield. With South Lake Union near University of Washington, it had an effect on the designation of its building use, like that of PTRP. Each study also found that while it has a focus towards one area of science, it needed the thriving bustle of residences and commercial to become a place of activity day to day throughout the year (Solomon 142). It is important to note that each specified the importance of user access to green space, whether it be through pedestrian friendly streets and paths from place to place or an interweaving connection of park space that allows people the chance to walk, bike, and play in nature (Figure 1.5).

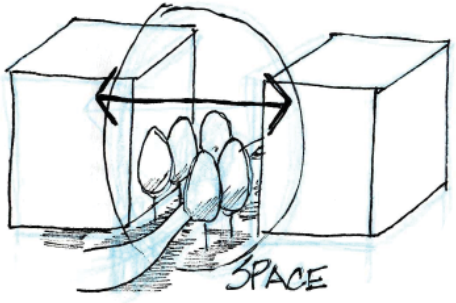

Figure 1.5. *Spatial Diagram*

As stated previously, Indiana Tech can play an important role of the development and survival of this space. As sustainable technologies become increasingly available and more efficient, there has been a noticeable interest in research parks (Solomon 142). The designation of research space, commercial buildings, and community gathering space should be done in a way where each gets exposure to the other and not completely segregating different uses. Small businesses that wish to start up can utilize potential resources and provide jobs as they grow. Purdue's Research Park is a good example where companies that grew to be larger than their incubator at Purdue ended up staying near West Lafayette and created a 700 new jobs from 2003-2007 (Purdue Research Foundation). Research, although just one component of the overall scheme, can set the framework for a more economically viable region, including job opportunities for local residents.

Figure 1.6. *Piedmont Triad Research Park*

The proposed site in Fort Wayne has potential for a strong, new park and mixed-use community activity center. These two studies provide a good beginning framework where a basic need is shown for diversity among structures and uses. It can provide the missing link between the neighborhoods south of the river and those north of it, allowing for a transition for an entire region to be a walkable community. Instead of proposing sites that are far reaching to most residents, and do not supply a central hub for activity, this new innovative park can be a place of daily commerce between local neighborhoods of children and adults, as well as students at the nearby university. Its urban contextual surrounding and historical buildings already lay a firm foundation, but now require an understanding of the people, area, and region so that this park space take form into one of pride and ownership for the city of Fort Wayne.

Benefitting from Parks

Fort Wayne aims to care for the needs of its citizens when it comes to park and open space. The city boasts over 85 designated parks with a total land area of 2,805 acres (Fort Wayne Parks and Recreation). Networks of downtown parks exist through a rivergreenway, connecting the existing Headwaters, Lawton, and Lakeside Parks. Each park has unique characteristics, but still contains similar functions that provide basic necessities for users of such a space.

Headwaters Park is considered a main gathering space for the people of Fort Wayne today. It sits on the north side of the central city district and straddles the main south running street into the downtown district. The land, especially in the lower zones, was left open and grassy for flood retention. The park is viewed as a quiet, recreational place, but also one where festivals, concerts, and venues take place on almost a weekly basis in the summertime. Two pavilions provide shelter for different events, with one being converted to a ice rink in the winter. Lawton and Lakeside Park contain active recreational fields such as baseball diamonds, tennis courts, or basketball courts. Lawton Park acts as a memorial park for World War I veterans with a large splash pad, and Lakeside Park showcases a large rose garden where reception and wedding events occur.

Each of these parks lie within a one mile radius of each other. The proposed park site lies within a quarter mile south of Lakeside Park and a mile west of Headwaters Park (with Lawton Park just north of that). It is important that a consistent network of park space exists. The proposed park space, which lies on the banks of the Maumee River, will help connect those south of the river, including Indiana Tech, two communities to the north, the Rivergreenway Trail, Columbia Avenue Historic Disctrict, and Lakeside Middle School. The creation of parks creates healthier communities by stabilizing

neighborhoods and strengthening the development of the community. Research also shows that residents that have common ties to green space enjoy strong social ties (Gies 8).

These statements display the importance of the site and the implications it has on surrounding neighborhoods. Many designers have looked at greyfields as opportunities to provide social and economic benefit, but ignoring or not acknowledging the argument for the natural features and connections that exist (Gisolfi 76). With Indiana Tech located a quarter mile south of the proposed site, connectivity is crucial in the relationship of the university with the community. Are basketball courts and baseball diamonds elements that will make this space successful? They can possibly help, but they don't create an interaction between different age groups. There needs to be a creation of the space by the people, where they can begin to understand, trust, and look out for one another (Gies 8). These things translate into benefits of greater social and healthier lifestyle transformations (Figure 1.7).

This greyfield needs the interaction of the people to make it successful and different from the other stereotypical parks that lie within the mile radius. The proximity to the Rivergreenway means that people can be given an opportunity to live a more active lifestyle with the new link that can draw people in from the trail. With a university and middle school being at a reasonable walking distance, there arises a great need for the use of

Figure 1.7. *Shared Community Gardens*

education in an outdoor setting. Elements such as signage or interactive features can help children understand the messages that are trying to be conveyed, such as sustainability. The university can use some of the existing structures on site as laboratories, where innovative designs and technological breakthroughs can be incorporated or constantly modified throughout the park.

Instead of a site where people turn their back, neighborhoods will claim this space as their own. Because of the activity and interaction on site, children will have constant interface with each other, as will adults. The creative approach to design and its ever-changing landscape will continue to draw people in. This translates to an increase in healthy living and social pride as this park forms and morphs over time. The Project for Public Spaces organization uses this approach when it comes to park design: “Successful public spaces are lively places where the many functions of community life take place, and where people feel ownership and connectedness — true common ground.”

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Educating Through Sustainable Design

Sustainable design is becoming more of a common practice in the design profession. Our specialized education has led us to use sustainable techniques in an almost unconscious manner, because of its proven value and benefits. Sustainability can be the fundamental purpose of learning. Why can't it be a foundational principle for students rather than a specialized program (Second Nature 1)? Elements within a park setting can help convey a sustainable future.

Once again, the Orange County Great Park (OCGP) made sustainability education and experimentation a main goal for the entire site. The concept of the park was to generate and educate people about the most up-to-date, sustainable techniques that can affect and change the daily lives of local people (OCGP). Interpretive signage at exhibits can help inform people about the design and what makes the space special. Recycled airport runway concrete was used for features on the site and makes the space feel connected to its past. Open swale

Figure 1.8. *Orange County Great Park*

systems and natural treatment stages allow visitors to see the engaging movement of water and its process from a polluted status to cleanliness (Figure 1.8). Use of renewable energies can also be seen by users because of its prominence and visual appeal as people walk through the park.

Preview Park, located in the Orange County Great Park, allows people to see the progress of the park through the view of a large air balloon that goes 400 feet into the air, among many other things on the site (ASLA). While the site may not be feasible or be large enough to include a Preview-like Park in Fort Wayne, it may be beneficial to include areas where the installation is designed to be temporary or mobile. If the program is laid out for such, this could reduce the need for equipment and product waste since things can be moved whenever needed. People can interact with these spaces as they have the opportunity to manipulate these installations.

Vista Hermosa Park in Los Angeles is comprised of nearly 99% of permeable service (Jost 91). Water is given special attention and signage can play a role in helping people understand what is happening. Modular units can constantly take different shapes as people visit the new park on a weekly basis, giving character and curiosity to the site. As children play and exploration areas are formed, the re-use of existing materials can help communicate its importance in the design and sustainability.

Almost half the site is in a floodplain zone according to Fort Wayne's GIS site. Michael Van Valkenburg Associates has done extensive park system work, a few major ones have utilized flood control techniques. The Lower Don Lands site in Toronto examined the experiential benefits of a renewed and revitalized river ecology through sustainable flood control techniques (MVVA). An older, world renowned project in Columbus, Indiana, Mill Race Park, utilizes several design techniques to help mitigate flooding. A large, circular lake was

excavated to allow for flood waters and mitigate its stages. It has acted as a large gathering space of activity for the community and all excavated soil was reused on site for other features such as an amphitheater built into the hillside that stays above the flood zone (MVVA).

Using native, hardy plants on slopes can help control erosion in different terraced sectors that can display different ecosystem patterns on a site. Instead of flood waters being piped off site during such floods, a sustainable method may be the implementation of natural water treatment through the site. Paths and structures, if located in the zone, need to be addressed in such a way where they won't fail when it is engulfed in the river's waters. Using concrete bases for walks and raised buildings to allow water to flow underneath are two examples that are also features of Mill Race Park (MVVA).

This new park can be a landmark for the city and region on the importance of sustainability, as it also relates to education. It's not just about educating young children, but teenagers, college students, and adults. I don't deem it necessary that our whole curriculum in schools and higher education change to such sustainable philosophies, but this park can be a statement of design principles that make sustainable technologies park of our daily lives. It is not just a thing of the future, but becomes part of the present as today's generation learns, and tomorrow's generation takes the principles and applies them. The park can become an ever-changing model, which isn't just a place of exploration and viewing, but a place of common elements that help reinforce their benefits and use in communities and entire cities.

Wasteland Transformation

Successful land reuse can only be defined through the users of the space. Investigating parks that utilized brownfield redevelopment will help further strengthen its importance and need in urban areas. What makes these spaces what they are? Why are people drawn to these places? Specific elements of design help further support the continued development of post-industrial space into park settings where beneficiaries can enjoy healthy engagement with others. While each park has its own unique sets of constraints and opportunities, it is important to analyze, explore, and extrude components that could cohesively exist in a new park in Fort Wayne. Two parks will be examined that use redevelopment in very different ways: Duisburg-Nord Landscape Park in Germany and Orange County Great Park in California.

Duisburg-Nord Landscape Park reused existing post-industrial structures as a design element. The project successfully took patterns from the old industry site and wove a landscape within so that they seamlessly worked together. Blast Furnace Park is a great example. Latz + Partners took old iron plates and used them as a base for the new public park. They referred to it as metamorphosis of the harsh and rugged industrial structure into something for the public (Latz+Partner). The design is a balance of the rusted metal and the light, vibrant softscape. Working with existing structures means that there needs to be a cohesive aspect that can bring some sense of comfort with the landscape(Figure 1.9). Most people like familiarity,

Figure 1.9. *Duisburg Nord Landscape Park*

and it is often referred to as the Mere Exposure Effect. It states that people generally tend to like something the more they are around it (Pohl 216). The architecture of the past can have a certain "aesthetic transformation of perceived elements through valuable implants" (Weilacher 94). Duisburg-Nord Landscape Park is an example of a transformed park with carefully planned enhancements. The play between the landscape and the built environment is what makes this park a successful design. Existing materials serve a new and revitalized purpose for the public within a more vegetated space. A relationship with the historical context of a site can give visitors and local residents a sense of ownership as fits into the landscape of the area and does not become a site of rejection or confusion. The park does a great job of allowing people to integrate exploration with imagination as the structures are open for interaction. Static objects can be given life through active use. Multi-use, morphological spaces and their spontaneous uses are visible proof of the success of such parks (Weilacher 96). These points serve a valuable reference to the reuse of the old Wayne Oil Tank & Pump Co in Fort Wayne. The buildings, while serving a business function, can also serve as interactive pocket park spaces that allow for an interface between people and places, rather than walls that stand as barriers between the two.

The Great Park is one of the largest projects in the history of the United States. Because of the connections between sustainability and a healthy active lifestyle, this project brings innovation to the forefront while educating people through signage and other symbolic features within the landscape. Objectives included everything from solar energy use to biodiversity reclamation. Play spaces and sports fields encourage a healthier, active lifestyle. The first phase, Preview Park, allows community members and visitors to see the process of design through visual and interactive spaces such as an

air balloon that soars over the site. Integrating sustainability with this temporary park is a valuable education tool as well as an healthy way to have involvement from the public as the landscape continues to transform. The integration of a Preview Park in Fort Wayne, like that of the Great Park, can give people the chance to watch and evaluate the design as it unfolds (Figure 1.10). It is important to consider how something this large can exist as one landscape and not seem broken. Unifying elements such as paving, a theme, or even common plant materials can help lead people through spaces in a cohesive manner.

Figure 1.10. *OCGP - Preview Park*

Ken Smith was stated as saying the biggest challenge of designing this space was to bring it back to life (Rombouts 1). The reintroduction of wetlands, ecosystems, and stream day lighting can bring plants and wildlife back to the region, but users must have needs met as well in order for parks to be considered a positive experience. Much like Duisburg-Nord Landscape Park, Orange County Great Park links the natural environment to the built environment while utilizing the history of the site (Smith 80). Integrating connections between living systems, people, and architecture can prove to be a vital anchor for the framework of a newly developed park.

These two parks have one common, clear objective: to engage people throughout the space whether its interaction with existing structures or information relayed in a unique sense at Great Park. While Duisburg-Nord Landscape Park can be considered modern, it has nostalgic feel to it. Its impression on

the land is minimal because of the confines it has in and around the post industrial site. Great Park on the other hand, is a complete transformation from its old function as a military airport base. With 1920s architecture at the site in Fort Wayne, there can be a transformation that occurs where old meets new. The historical context of structures can be met by a new open space design that gives it a fresh identity for the surrounding community. Great Park contains small trees on site that are in planters. While those trees are design elements, they also display signage that explains how these trees will be planted once grown to a more full maturity, reducing the need for unsustainable transportation techniques (Figure 1.11). The same can be similar with the new innovative park at Fort Wayne. People can physically see trees being grown on the site, how they work, and where they are going to be applied on the site. This concept can be an ever changing idea as new companies or classes from Indiana Tech use the building spaces for different projects. Visitors can see the morphing landscape and the updates to different technologies applied to the site. It is the structural, conceptual idea of Duisburg-Nord that meets the innovativeness and modern qualities of Orange County Great Park.

Figure 1.11. *OCGP - Signage*

Urban brownfields can be looked upon as eyesores for surrounding communities, but these two parks display the importance of a framework that connects the site to surrounding neighborhoods and the history that is told through the land. Designers must carefully cultivate the true meaning,

processes, and forces of a site (Weilacher 96). Orange County Great Park does this through its literal concepts such as a large timeline on the pavement that helps relay the history of the site to visitors. Duisburg Nord Landscape park utilizes the past structures with new plantings to create interesting spaces. These studies are excellent examples and required careful examination to meet the demands of the land. All of this information culminates into having a strong inventory and analysis of the site, being careful to address and gather data about how this place came to be.

PROBLEM STATEMENT

This project examined how to develop a master plan for an urban community park on a greyfield in the city of Fort Wayne, Indiana. An existing abandoned facility on site was reused to accommodate services of the community such as a farmer's market, gardens, and technology center. This park benefitted all people and included different experiences for when community members visit the spaces. Innovation Park served the surrounding neighborhoods as a recreational space with educational components involving sustainable technology for students. With its banks against the Maumee River, floodplain control techniques were to be implemented.

SIGNIFICANCE

Fort Wayne, Indiana takes pride in its confluence of rivers that join at the city's center. The title "Three Rivers" adorns many business fronts and a city festival that takes place for the public. Headwaters Park, the main central park of the city, hosts these festivals and activities and was designed mostly for flood control. In the 1980s, it was a revolutionary park for its modern ideals and can still be looked to as such, but in a time where children are becoming more sedentary and obese, the Fort Wayne community needs a place of interaction and exploration.

The innovative research park along the Maumee River helped clean up an old industrial site and celebrate another point along one of Fort Wayne's three rivers (Figure 2.1). While Headwaters Park was an icon and place of gathering for city festivals, this park created an identity of exploration and interaction for children and adults of the surrounding neighborhoods. People became more socially and culturally accepted of each other because of the sense of community that this park has brought. The mixed-use buildings also improved relations with the nearby university as they used the spaces

Figure 2.1. *Project Site Looking West*

for research centers, shopping, eating, and playing within the park.

As Fort Wayne made its mark as a sustainable city, this park helped educate children and adults in a fun way. Children intermingled as they learned together, starting a new generation of people that have grown up with knowledge of sustainability as it becomes a common practice for the community. Its proximity to the Rivergreenway made it easily accessible by the entire public and provided exceptional views onto one of the cities celebrated rivers. As communities grew, developed, and transformed, this park also changed. It provided an interesting experience in a setting much different than that of Headwaters or other city parks. It offered a safe, comfortable, active engagement between people, their health, education, neighborhoods, and the region as this future landmark took shape.

Goals and Objectives

Goal 1: Provide surrounding neighborhoods with an environment suitable for creating strong social ties and interaction.

Objective 1: Provide areas where community gardens can be established.

Objective 2: Create spaces where local markets encourage people to shop locally and live healthier.

Objective 3: Incorporate a strong theme or central landmark that can act as a gathering spot for small activities or events for the people.

Goal 2: Provide pedestrians and surrounding neighborhoods with a safe connection to the park

Objective 1: Utilize street trees to help direct and draw users to the park through Coombs and Tecumseh Street.

Objective 2: Create walkable sidewalks and bike lanes for easy access to all modes of transportation

Objective 3: Connect to nearby Indiana Tech University as well as the Rivergreenway Trail to help draw non-residents into the site.

Goal 3: Create a learning landscape where children can get an interactive experience with innovative sustainable technologies and how they work in nature in a modern society.

Objective 1: Provide spaces where children move, touch, see, and hear different features within the park.

Objective 2: Utilize consistent themes of native plantings that work within the system so children get a reoccurring concept throughout the landscape.

Objective 3: Allow for designated areas of different activities, but also create separation.

Goal 4: Promote a safe and engaging experience within the urban core of the site.

Objective 1: Integrate alternative building uses to help with social interaction.

Objective 2: Use vegetation and circulation to create a natural experience through the built environment.

Flooding: The entire northern section of the site was in the floodplain and collected water at least once every five years, if not, more frequently when spring rains arrived. The southern portion was designated as being within the floodway and had the potential for flooding in a large rainstorm such as a 50 or 100 year rain. This issue created a challenge when designing the site, but also allowed for opportunities to celebrate the river and movement of water in very special ways.

Figure 3.1. *Waste on Site*

Public safety: This site was almost completely abandoned in its past state. The site and surrounding areas were not well lit and became a deterrent of people who would like to visit the park late into the evening. As it existed, there were many nooks and crannies where unsolicited activity could occur. Opening up spaces and increasing public visibility were several things to consider regarding the its poor attention to safety.

Pollution: There was very little info about the industry that occupied the site decades ago. There was no record of the complete activities that took place on site through initial research, but further analysis could tell more. If the site was contaminated, there needed to be some addressing of water and/ or soil quality, although it was an assumption that all toxins would be remediated before construction (Figure 3.1).

Public access: While the greyfield was located along

a main bridge crossing the Maumee River and next to the Rivergreenway, there was a lack of exposure to the general public. People needed to be drawn into the site through specific design elements or views to create interest.

Land use: While the site was large, it was unclear whether it could support offices, retail, restaurants, and market spaces along with the park space. Further research needed to be done to examine case studies to see how much square footage was allotted for specific buildings and how these uses could coexist as one landscape.

Connectivity: There was not only a need for connections to the site from the surrounding context, but it was also central to the idea to connect spaces and places within the site so that it acted as one landscape. Further analysis would show different techniques as well as the successfulness of specific links.

Clients and users of the space included the people of the city of Fort Wayne as well as species of animals and birds that would be reintroduced to the marshland. Other specific entities included government officials, park board members, planners, private business developers, Columbia Avenue Historic District, Lakeside Middle School, and Indiana Tech University.

PROGRAM

Design Guidelines

Design Theme

The design theme for the Wayne Center Innovation Park located in Fort Wayne, Indiana was a "reintroduction of the native 'Great Black Swamp' marshland." As park of the Maumee Watershed, this environment was characteristic of eastern Fort Wayne into northeast Ohio. Much of the land was drained, filled, and settled once western expansion of the United States began. The marshes represented a beginning and natural state of the site with an overlay framework of modern, innovative development. The theme was characterized by large-scale design elements such as native hardscape materials and plantings. Small-scale elements included curvilinear, organic patterns representative of the marshland (Figure 4.1). This theme would continue to be the guide for future modifications of the site and architectual detailing.

Figure 4.1. *Marsh Characteristics*

Materials

- For new construction, use natural materials found in the area to the greatest extent
- Ensure construction is done at a scale that does not overpower the natural elements of a specific site and that all details compliment their sites.
- Use natural landforms wherever possible to slope and stabilize the land.
- Use wood wherever possible for signs, benches, or other site details in the commercial portion of the site.
- Use native vegetation wherever possible to cover exposed earth surfaces, to provide visual screening, and wildlife cover, to prevent erosion, and to integrate the buildings and road into the surrounding habitat (Figure 4.2).

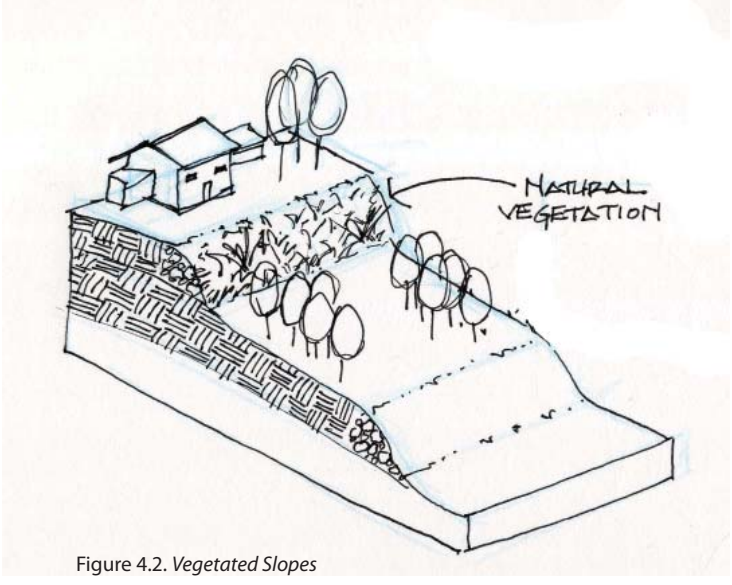


Figure 4.2. *Vegetated Slopes*

Protection of Existing Vegetation

- Preserve large trees wherever possible.
- Preserve shrubs and trees at or near the banks of the land when possible (Figure 4.3).
- Premark vegetation that needs to be protected prior to any construction activity. Show the vegetation to be protected on plans.
- Protect native seedling and sampling trees.

Figure 4.3. *Existing Site Vegetation*

Revegetation of Disturbed Areas

- Develop detailed revegetation plans for areas of special concern, including swamp land, wet prairies, and xeric prairies.
- Use only indigenous plant materials for revegetation of disturbed areas. Develop a wetland seed mix composed of indigenous pioneer species. Also develop a mix for erosion control on large open slopes and in disturbed areas along the roadway to prevent the establishment of invasive species.
- Make special effort to salvage and reuse topsoil
- Use a mix of successional stage species to leave the disturbed area looking much like the adjacent natural environment.

Planting Design

- Ensure new plantings are in groups of similar species, rather than alone.
- Provide vegetation through riparian areas to provide cover for wildlife.
- Use vegetation in selected areas to screen undesirable views. Landscape planting for function and form can be an effective means of facilitating circulation and screening selected areas.
- Blend new plantings into the existing landscape so that all traces of construction will vanish within a few years.

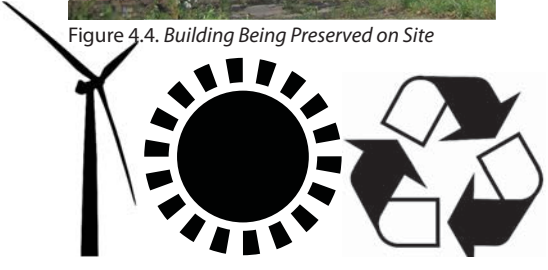
Water and Hydrology

- Use bioswales composed of indigenous plant materials to minimize problems with water runoff.
- In wetland areas, create ribbon marshes that can be used to filter runoff.
- Fill material may be excavated from selected areas. It may be permissible to excavate down to or near high water table in order to create artificial wetlands.
- Incorporate structures to maintain healthy ecological systems and to allow wildlife passage.
- Use urban cross-sections in selected populated areas in order to control runoff. All urban cross-sections shall include a stormwater collection and treatment system using BMPs.
- In wetland areas, incorporate runoff treatment facilities to ensure high water quality. Possibilities include, bioswales, natural appearing constructed treatment ponds, and impervious lined channels planted with indigenous materials.
- Minimize the area of impervious surface in order to reduce runoff.
- Use a filtering system to present stormwater from discharging directly into wetlands or streams
- Select vegetation for constructed wetlands from hydrophytic plants that are suitable for local climatic conditions.

Building Land Use and Function

- All buildings must meet LEED GB. Categories to be addressed included water efficiency through use of rain barrels, materials and resources through the reuse of the existing structures, and energy/ atmosphere which is accomplished through the use of solar panels, wind turbines, and reduction of roof heat through green plant material.
- Future businesses, companies, and firms should abide by local ordinances. Things such as neon window signs and materials not common to the site are not permissible.
- There must remain designation for 3-4 innovative sustainable companies and 3-4 research lab facilities for furthering education. All other building uses can be sectioned and integrated into a framework consisting of retail and eateries.

Figure 4.4. *Building Being Preserved on Site*



DESIGN PROCESS

With such an open piece of land, the designer began with a broad scope of contextual elements that surrounded the site. Circulation was important when reviewing how people got to the site, whether it be on foot, riding a bike, driving a car, or taking public transportation. Along with locating city parks and local institutions, an overall riverfront redevelopment could connect the site to the downtown district. These criteria also helped establish entry points into the park.

Initial conceptual designs were a direct result of the main entry points and focused on the idea of sequencing spaces in different arrangements. No theme or big idea was present and it led to a struggle in development. It was not enough to just analyze such things on the site, but ultimately took a broader outlook to the region of northeast Indiana and ultimately the Maumee watershed that extends into Ohio. Upon further research, the designer found what ecology existed in its natural state, wetland marshes.

That had begun to form more defined spaces and circulation patterns throughout the site. After having that knowledge, site details and elements were developed. These began to give life to the design as it was continually refined.

Location

As stated previously, the site was located in the urban context of Fort Wayne, Indiana, just east of the downtown district as established by the city. The site was approximately 42 acres and surrounded by residential land uses. One of Fort Wayne's three major rivers, the Maumee River, bordered the northern portion of the site with the Columbia Avenue Historic District north of that. The site directly connected to the city's Rivergreenway through a historic bridge that passed over the river. Bordering the southern edge of the site was an active railroad used to carry freight. Two institutions were within a half mile of the park, Indiana Tech University and Lakeside Middle School. Each provided great anchors for the educational components within the park.

A major industry of the city occupied the site in the 20th century (Figure 5.1). The Wayne Oil Tank and Pump Company manufactured products such as oil dispensers, grease dispensers, air compressors, air towers, lifts, and car washers. The company is credited with inventing or evolving the gasoline pump to what it is known as today. They also invented the computer system that is still used in some gasoline tanks today (Antique Trader). It was a place of rich history for the city and the remnants are a sign that it still had some place in today's context, although it appeared to be hidden from most of the public.

Figure 5.1. *Site's Existing Southern Development*

.95

.25

.50

Headwaters Park

Downtown

WITHIN 1 mi. of SITE

Indiana Tech University

Lakeside Middle School

The site appeared to be separated into two zones. While the whole site had been disturbed or modified at some point, the northern portion was the least distressed. It had been over grown with weeds and invasive species of plants. The southern area was stamped with random layouts of buildings that housed only a few businesses. The original site structures had been blocked by other buildings, even though they do still exist. Half of the land area was considered to be in the floodplain zone, according to Fort Wayne G.I.S data.

Figure 5.2. *Neighborhood Figure Ground*

Within the city's comprehensive plan for the future, it called for greater exposure and use of the land that runs adjacent to them. While half of the site was within the floodplain, housing developments were not possible. The site could not continue to be vacant and had a great opportunity to achieve riverfront beautification. Its goal was to extend out from the downtown and connect people to places.

There were many extensive, contextual existing conditions that had to be considered before the designer moved forward with site specific details. These patterns began to shape the area's overarching framework and identified key points of intersection between land uses, parks, and circulation (Figure 5.2).

Neighborhood Scale

It was crucial to identify all of the parks and open space that were available to the public. While there is no real shortage of such space for the people, they all contained the similar basic park amenities such as basketball courts, ball diamonds, open grasslands, and playgrounds.

The figure grounds conveyed the outermost areas that were affected by the innovative park, including educational institutions and the downtown (Figure 5.3).

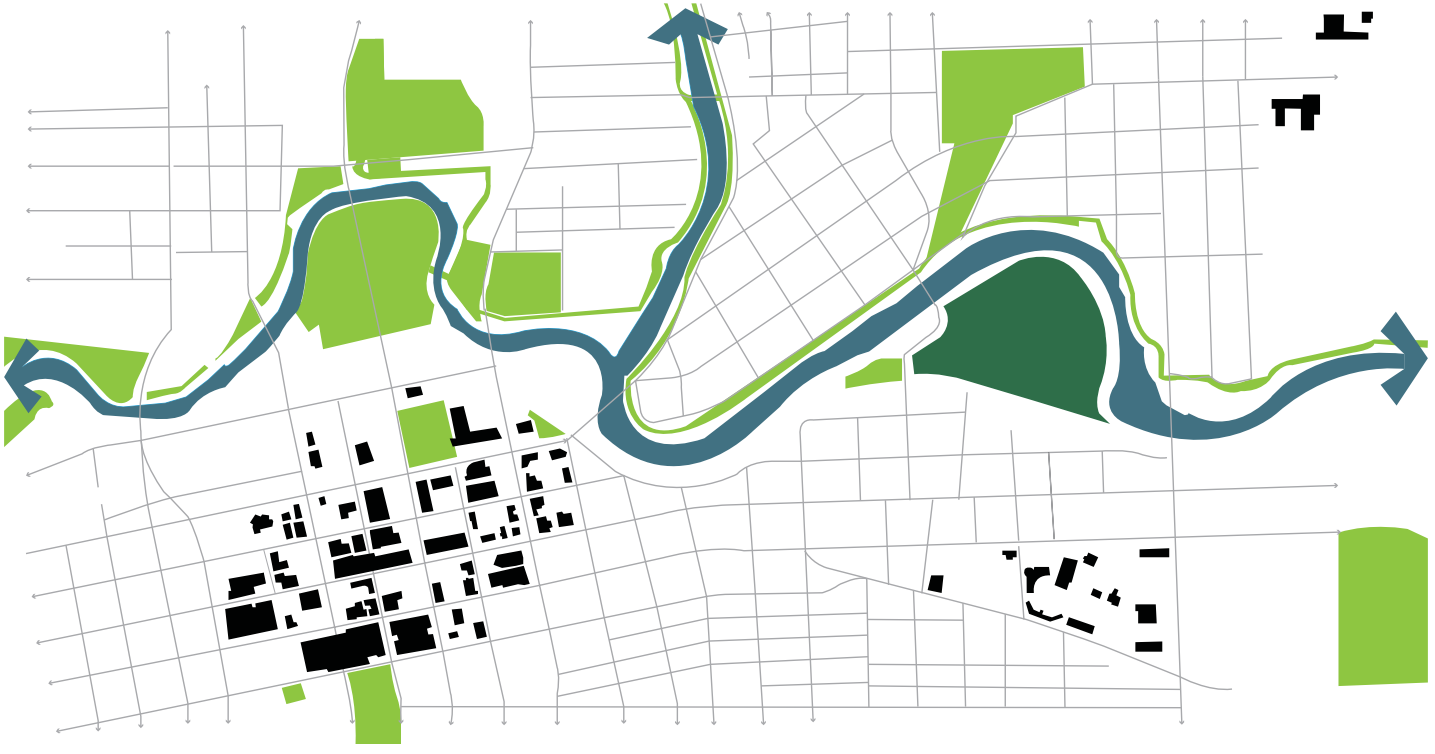


Figure 5.3. *Open Space Inventory*

There were several different circulation patterns that existed in the area. There were two specific bus routes that surrounded the site, making public transportation very accessible. The Rivergreenway, which spans 24 miles, ran just across the river (Figure 5.4).

A current freight rail line bordered the southern edge. A section of the railroad was once home to the canals that aided in the transportation of goods, later being filled in to make way for new passenger train transportation in the late 1800s, early 1900s.

Figure 5.4. *Circulation Inventory*

Figure 5.5. *Neighborhood Walking Radii*

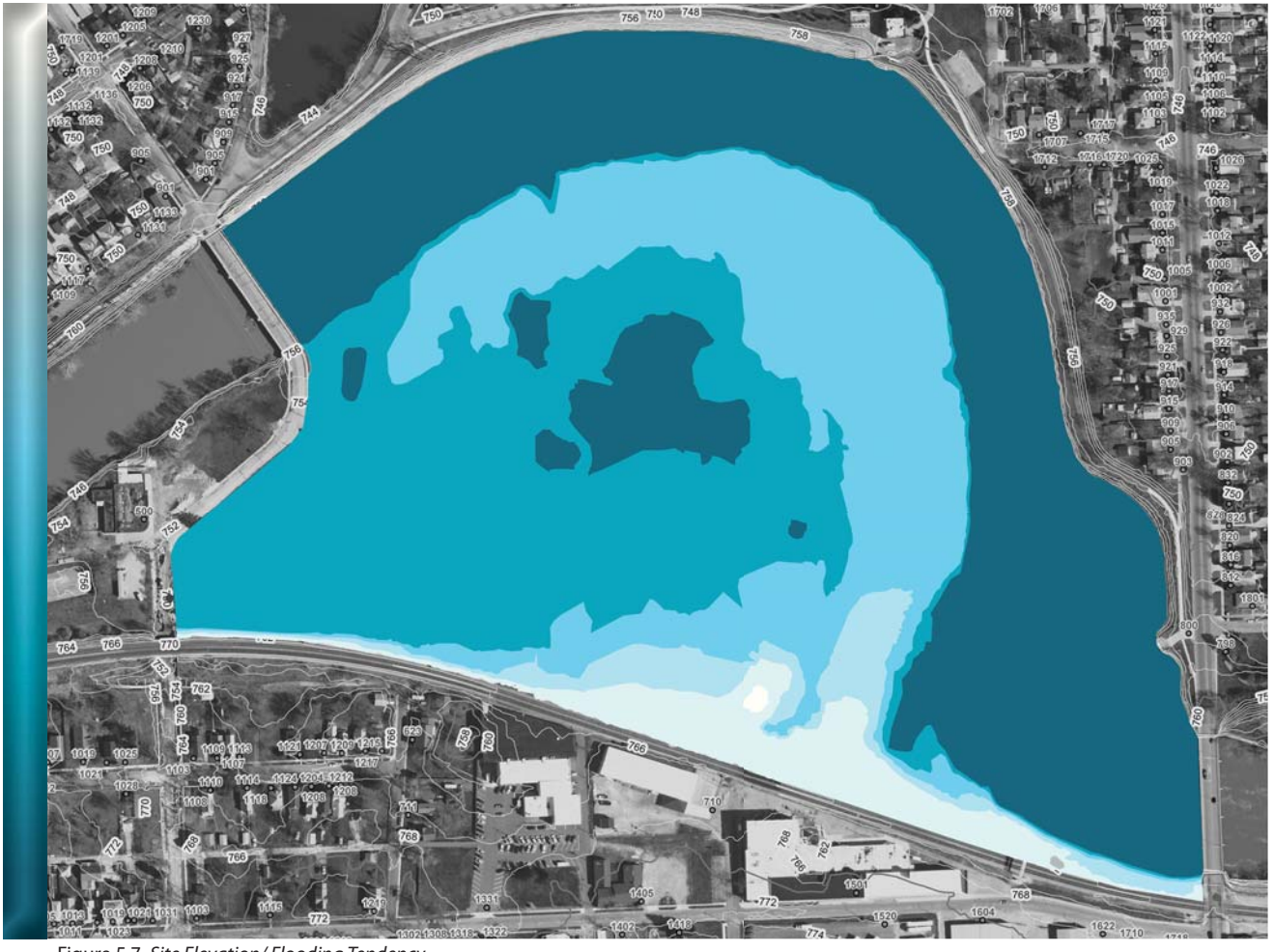
This diagram examined quarter and half mile walking distances within the three surrounding communities (Figure 5.5). Each neighborhood was comprised of different housing types. The northeast units were all single family housing. The southern units were a combination of single family and duplex housing. The northwest units also included mutifamily housing on top of the single and duplex housing.

The downtown and school epicenter walking distances appear to be a little more disconnected with each other and are most easily accessible through biking, bus, or car (Figure 5.6). This translated into a need for greater connections to each place as well as its relationship to the site. As seen, these points became the anchors to the area's framework for expanded development outside of the site boundaries.

Figure 5.6. *Commercial, Institution Walking Radii*

Site Scale

Highest Elevation



Lowest Elevation

Figure 5.7. *Site Elevation/ Flooding Tendency*

The site presented many challenges, but most identifiably flooding. The entire site had potential for flooding, but only the northern half was in the floodplain (Figure 5.7). The capacity for a new park to hold the volume of water that a 100 year flood would facilitate led to careful consideration of spaces and how hydrology effected the site.

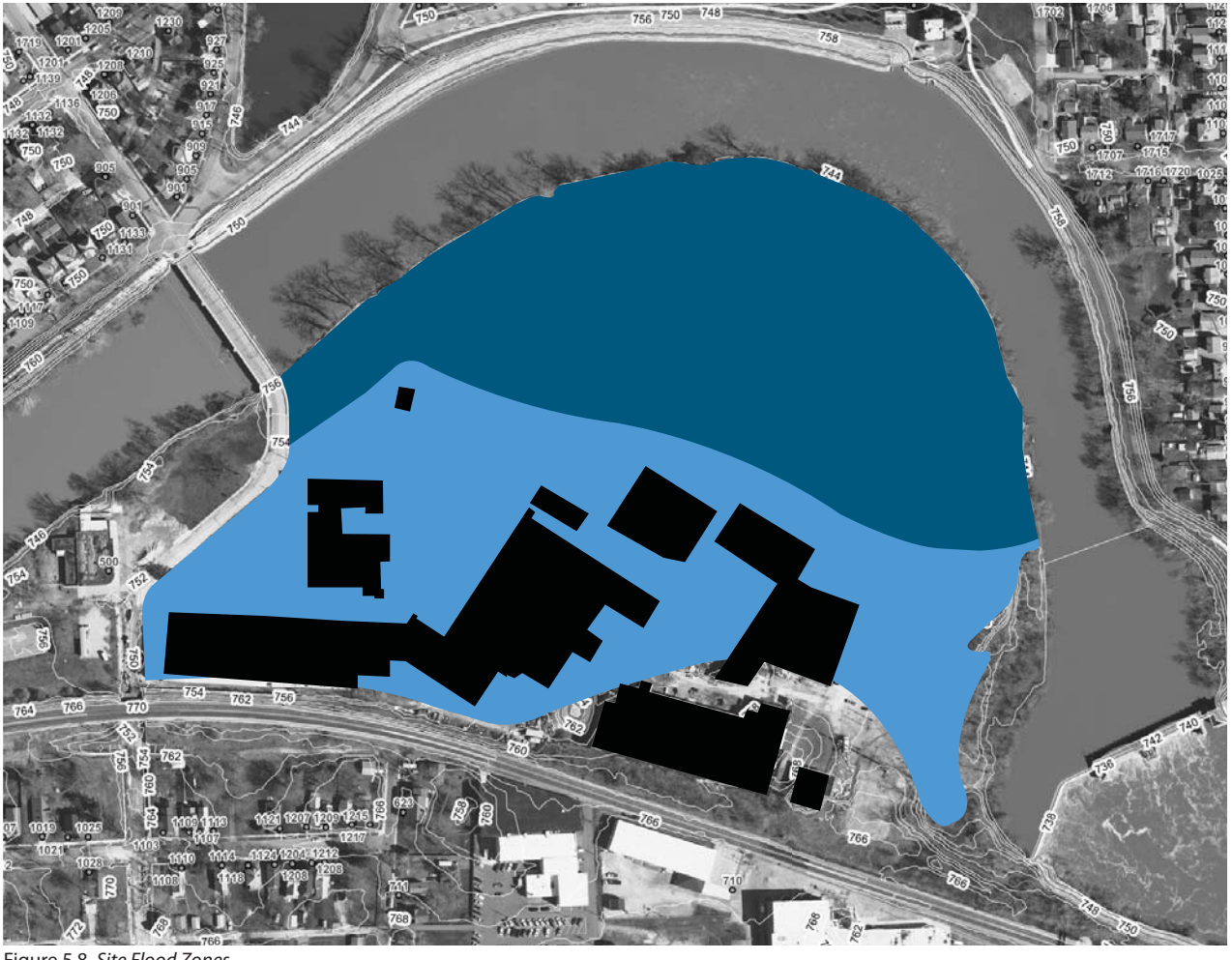


Figure 5.8. *Site Flood Zones*

The northern portion of the site is designated as being within the floodplain, according to the City of Fort Wayne G.I.S data maps. The southern region is considered to be in the floodway, which had the efficiency to carry and discharge floodwaters. It needed to be maintained to to prevent any further flooding (Figure 5.8).

Site Analysis

Neighborhood Scale

After locating gateway points, it was clear that a strong physical connection needed to be made so that pedestrians and visitors had the most accessible routes. Because of these linkages, the site needed to reach out and modify exiting roads that go into each of the surrounding neighborhoods. These green fingers could create safe paths as they reach out as far as Indiana Tech University and Lakeside Middle School (Figure 5.9).

Figure 5.9. *Open Space Analysis*

The same gateway points were identified within the circulation patterns. From those, the designer was able to conclude that there was no cyclical pattern that could continuously circulate people in, around, and through the site. With bus routes following main streets around the site, it provided the best opportunity to rework the existing infrastructure to the point where it could facilitate pedestrians, bicycles, and cars (Figure 5.10). Having green fingers along bus routes could expose more people to the active lifestyle that others live and generate excitement around the site.

Figure 5.10. *Circulation Analysis*

Figure 5.11. *Neighborhood Walking Distance Analysis*

The orange spaces showed a medium to high overlap of the different walking distances of neighborhoods. The red symbolized the highest overlap of them all. This diagram displayed the importance of not only linkages to the neighborhoods, but also along the southern edge of the river, matching that of the Rivergreenway. The red area told the designer that this could potentially be important as an entry node (Figure 5.11).

With these two schools and downtowns acting as the outskirts, or anchors, it was important to show that these sites still had a connection to each other, with secondary spaces and paths that could take place in the residential areas between them. The Rivergreenway was a strong nothern connection, but the southern edge of the Maumee River needed greenspace to create the loop (Figure 5.12).

Figure 5.12. *Commercial/ Institution Walking Distance Analysis*

Framework

Due to the existing conditions and analysis, a framework was generated. The green fingers of open space were extended out from the site to reach to adjacent neightborhoods and beyond. An additional trail was laid out along the southern side of the Maumee River to create a continuous connection to the downtown and ultimately, a circular pattern to spaces, rather than a linear system. Natural filtration units repeated themselves along the river to create some unity in the larger master plan. People could associate with the similar demostration filtration units as they traveled down the Rivergreenway towards the new park (Figure 5.13).

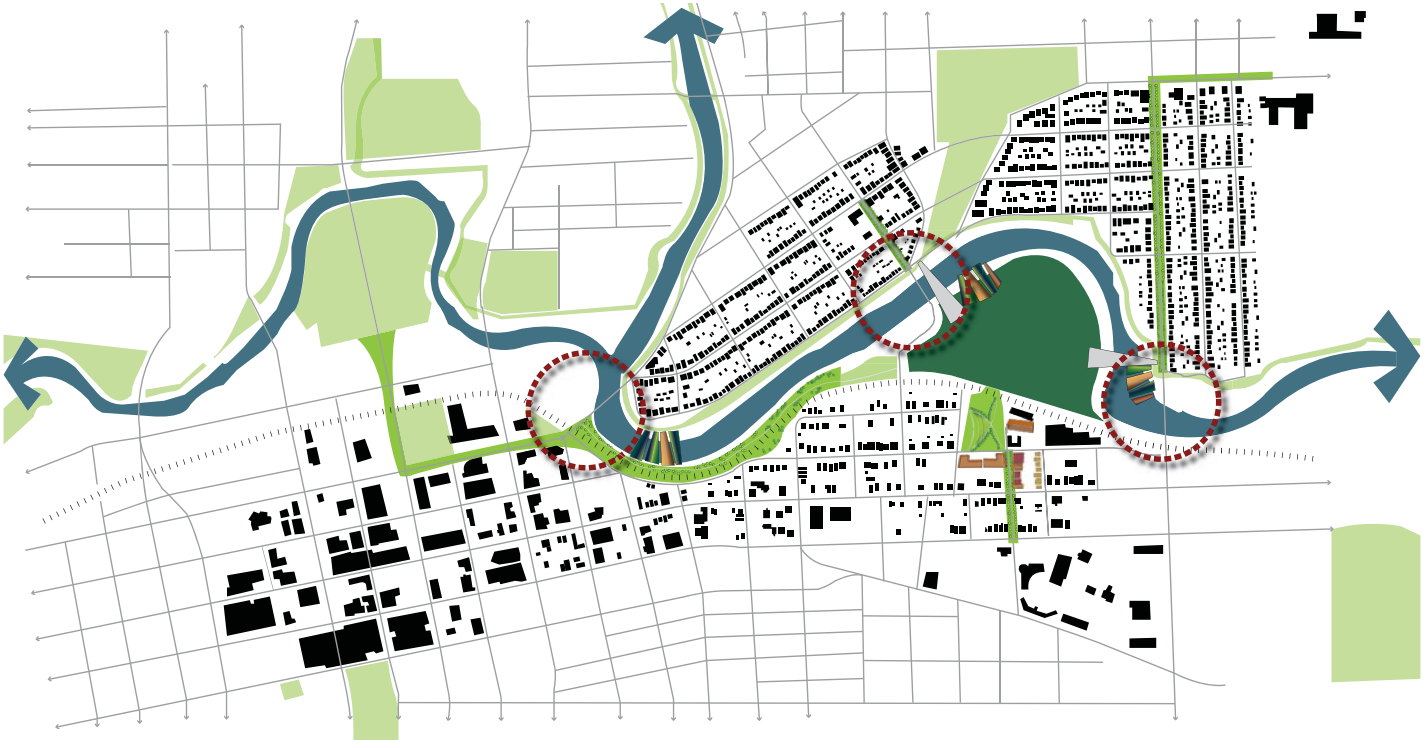


Figure 5.13. *Framework*

Duisburg-Nord Landscape Park

Being an old industrial site, Duisburg-Nord provided a great base to interpret its design as it related to the designer's site. The structures had a seamless relationship with the environment, appearing as if this built park was part of the site when it was first built. Regardless of whether the buildings were reused or newly constructed, it was crucial to have the built environment compliment its surrounding landscape to create a harmonious development (Figure 5.14).

Another main feature of Duisburg-Nord was the interaction the structures had with children's play. It created an energized and active space. While children were not involved in active play on and throughout the buildings, it did display the importance for dynamic building spaces for the community.

Figure 5.14. *Duisburg Nord Landscape Park*

Case Study #2

Orange County Great Park

Even though Orange County Great Park's beginnings were an abandoned airport, its conceptual ideas were revolutionary for sustainable design and education. Its size was larger than that of Central Park in New York, but had a direct focus to promoting the reuse of materials, sustainable tree growth, water control, and reintroduction of wildlife, among other things (Figure 5.15).

The Great Park gave a new standard to large park design. It reminded the designer that reuse of building materials and vegetation can prove vital in giving visitors a sense of familiarity. Subtle, but important educational design elements throughout the park in Fort Wayne allowed for children and adults learn in exciting ways that were incorporated in design features.

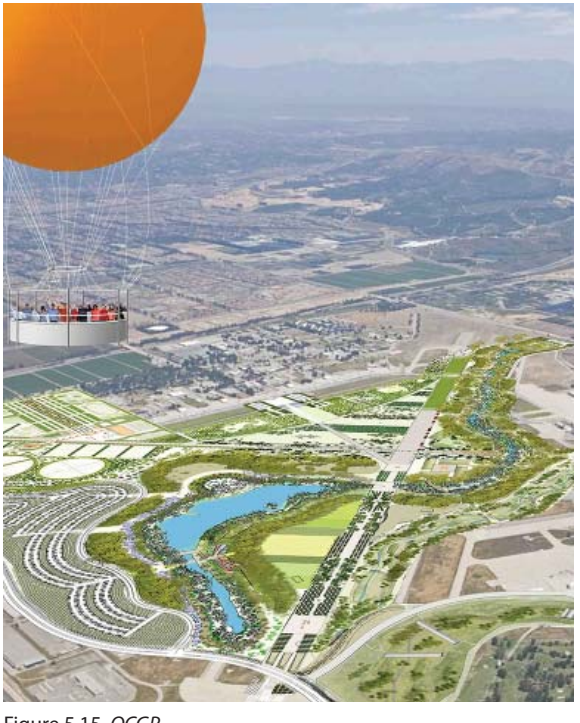


Figure 5.15. *OCGP*

DESIGN CONCEPTS

Conceptual Spatial Diagrams

The designer had to first define what spaces would be where, given such a barren site for development and open space. Development was still designated for the southern edge and all original building footprints were left. A common plaza space would act as a transition between the development and park, where pod-like spaces had a terraced effect for flooding purposes (Figure 6.1).

Figure 6.1. *Terracing Spaces*

This took a similar approach except for controlling the flooding to one site of the park space. A central axis that physically linked the site would link the two sites to create a cohesive design, with the eastern portion left open for active and passive recreation. Educational spaces would be spread out to give the most people access to them and still allow for some to be active while others were flooded (Figure 6.2).

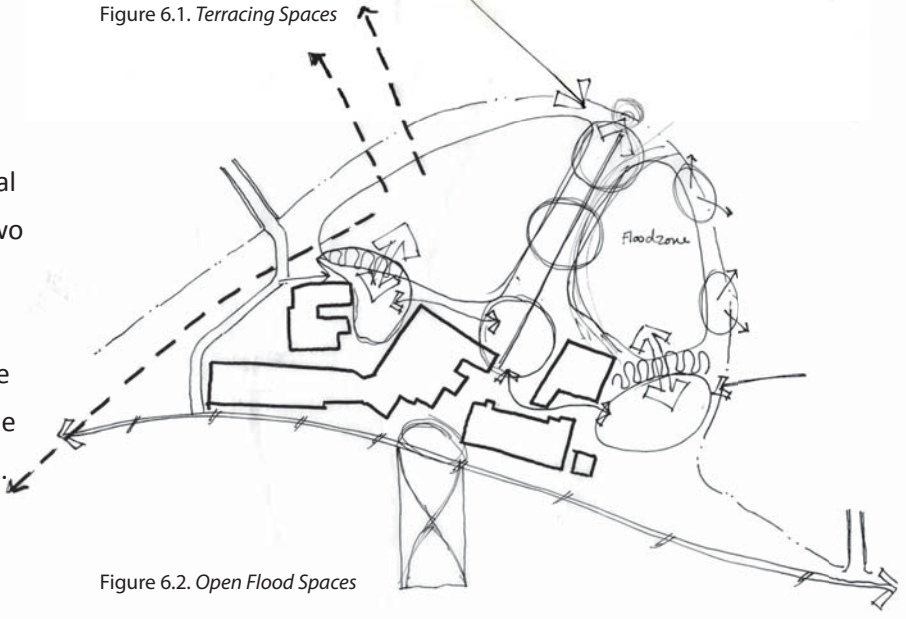


Figure 6.2. *Open Flood Spaces*

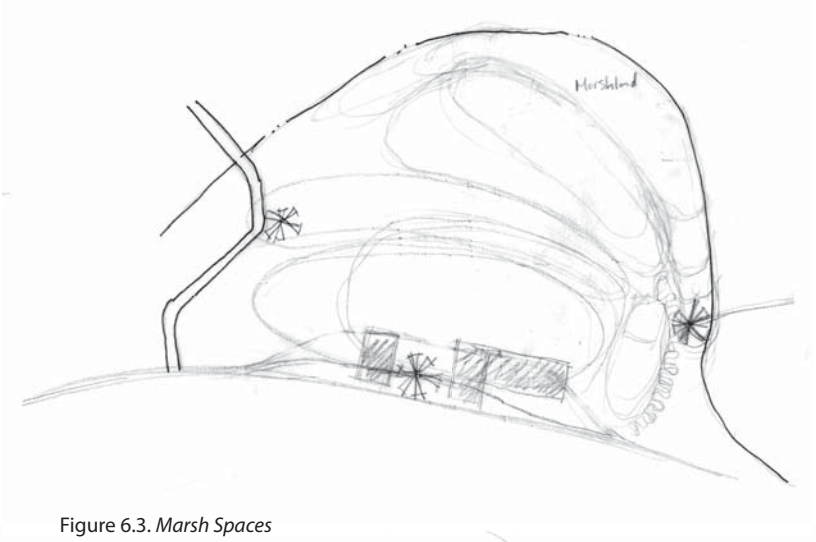


Figure 6.3. *Marsh Spaces*

The theme of the project, celebrating marshes, began to shape an even deeper disgram with less drawing. The four major spatial areas were designated out as developmental space, with a series of marsh zones. Each also acted as different flood stages for the site so that the development would be free from any water (Figure 6.3). This gave meaning and substance to general ideas.

Concept Development 1

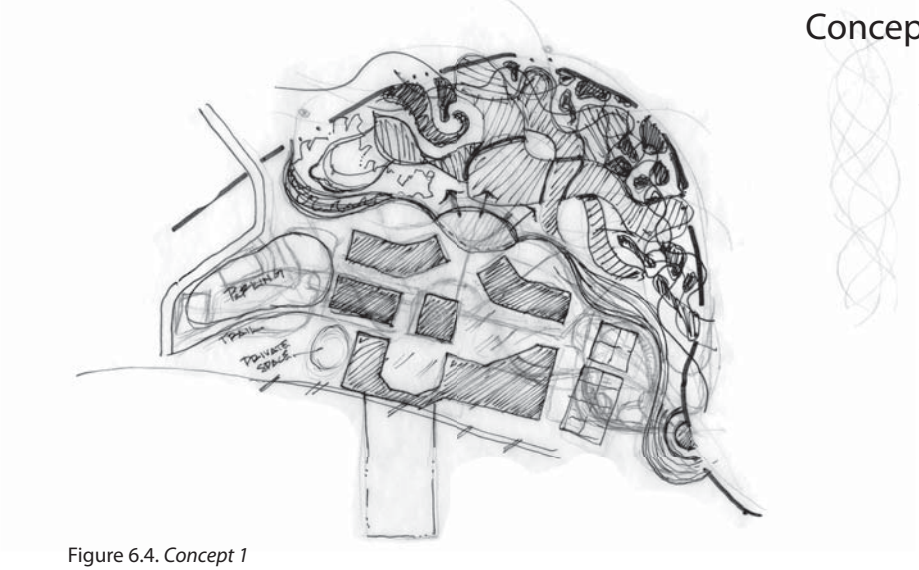


Figure 6.4. *Concept 1*

The first concept design took the idea of the marshes interweaving, organic pattern to form the base of park. The hatched areas represent the pathways that would stay above the the flood waters that seap into the low lying areas. A natural terrace seperates the development from the park, but provides a visual connection. All parking was left to the western edge of the site to allow for maximum safety for pedestrian travel (Figure 6.4).

Concept Development 2

With such a expansive amount of land, the park needed to have more of a directed approach to why spaces were the way they were. The designer then went back to the idea of different marsh zones to create three small spaces within the park, but still kept that weaving form before stepping down to the wet, hydric zone of forest that would be a haven for reintroduced species of animals and birds. A demonstration area by the Maumee River's edge was also added (Figure 6.5).

Figure 6.5. *Concept 2*

Concept Development 3

Further refinement led to defining the three zones more distintly. The concept of the marsh is still present but the upper most zone along the eastern side is flatter and more open for the learning landscape spaces where children can play. The building layouts leave an open north-south and east-west axis for visual and physical connection around the site. The organic marshland vegetation is carried over in the development with large water retention basins (Figure 6.6).

Figure 6.6. *Concept 3*

Each idea and concept was integral in developing the final master plan for the Innovative Park. It was a culmination of each conceptual phase from beginning to end. The challenges of flooding and development were met in a cohesive design that used water to its fullest capacity, giving visitors the opportunity for interaction with the river, rather than hiding it.

The final product recognized and celebrated the history of eastern Fort Wayne's ecology as it fit into the Maumee Watershed. It also preserved one of the site's industrial buildings that was once the Wayne Oil Tank and Pump Company. The structure's facade adorned an original concrete title bar embedded within the brick.

The innovation came through a unique design and interpretation of open space as well as the modern sustainable technologies that gave this park an educational component which was not seen in surrounding parks. Overall, its strength was within the integration of spaces, people, and the environment.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pedestrian circulation
vehicular circulation
ecozones
vegetation
program
DUPLEX FAMILY HOUSING
SINGLE FAMILY HOUSING
MULTI FAMILY HOUSING
SINGLE FAMILY HOUSING
swampland
filtration
RELAXATION
wet plants
playing
FARMERS
MARKET
biking
gathering
EDUCATION
dry plants
parking
entry
PLAZA
technology
research labs
contemplation
parking
retail shops
COMMUNITY
GARDEN
open space
SINGLE FAMILY HOUSING
DUPLEX FAMILY HOUSING

Innovative Center Development

The southern portion of the innovative park included access to amenities for the surrounding communities. Research labs, retail, sustainable technology offices, and a community center brought life to the innovative center. Parking lots kept cars along the outside of the site while the centralized commercial space was left open for pedestrian travel. A vehicular accessible street along the northwest section of the upper tier allowed for service vehicles as well as local people that wished to sell goods at the farmers market. A central power generator/ landmark stood out as a focal point and gathering space for groups that wanted to shop, eat, and play at the park. The community garden gave surrounding neighborhoods a place to claim ownership of the park and create a stronger, safer place.

A. vehicular accessible path

B. car dropoff/ entry plaza

C. water collection basin

D. power generator/ landmark

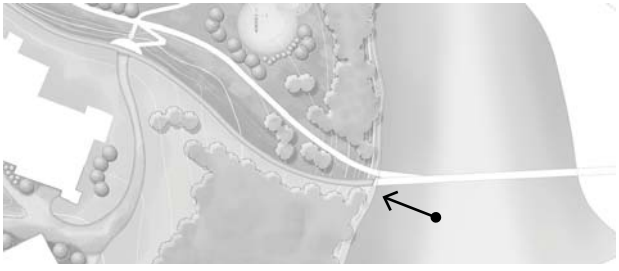
E. retail, research, food

F. boardwalk bridge with seating

G. community garden

H. pedestrian bridge

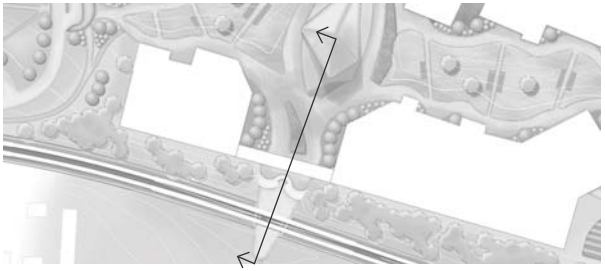
Elevated pedestrian bridge across the Maumee River



The pedestrian bridge and vegetation were situated in such a way where visitors arrived into the park's tree canopy, with limited views out onto the park or commercial center. The elevated path allowed people to have a close interaction with the forested area. They appeared to have been brought up to the scale of the natural vegeation and were not overwhelmed with an enclosed canopy over their heads. Guests had the option of entering either the park or Innovation Center, both eventually led back to each other and help complete the cyclical pattern that linked back up with the Rivergreenway. Only trees in the bridge's path were removed to reduce impact on the existing vegetation while making the path feel like it had been there for 30 or 40 years with mature growth surrounding it (Figure 7.1).

Figure 7.1. *Pedestrian Bridge*

South gateway entrance with transitional plaza



The southern entrance, which eventually connected to Indiana Tech University, had a very different feel from the pedestrian bridge. A pedestrian tunnel was created under the elevated rail so they were not restricted by the railroads apparent barrier. The train was proposed to be repurposed for passenger rail, as it once was in the early 1990s. As people traveled through the tunnel with a very compressed feeling, their views expanded and opened while walking up the stairway to the transitional plaza which terminated at the power generator, sitting on axis with the north-south and east-west paths (Figure 7.2).

Figure 7.2. *South Entrance*

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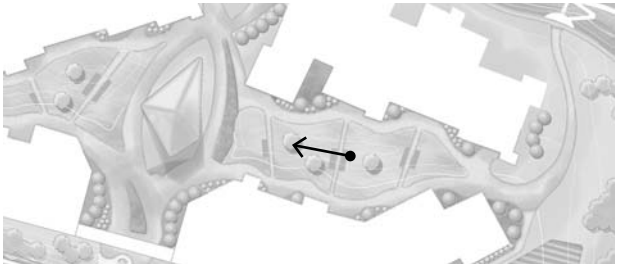
Perspective 2

Innovative Center with native prairies basins



If pedestrians decided to turn left when they walked on the bridge, then eventually arrived at the commercially developed region of the park. The designer's intention was to utilize the architecture of the existing buildings to designate new uses. Although they housed modern amenities, they presented a feeling of familiartiy for residents of the area. They did not overpower the space and felt as if they had always been there with the landscape.

The native grass basins were wide and allowed visitors to feel as if they are not in an urban setting, but a natural, open environment. All runoff from the building roofs and hardscapes collected in the basins, with future phases that planned to collect rainwater from communities to the south, reducing the impact on the stormwater system (Figure 7.3).

Figure 7.3. *Innovative Center*

Learning Landscape and Marshland

The open landscape north of the development provided many areas of interaction and education with new sustainable technologies. The space along the eastern portion of the site was home to educational play spaces for children and adults. The technologies developed by small companies in the innovation center would then be applied out onto the landscape. Children had the chance for exploration as they stepped into the different marsh zones: xeric (dry), mesic, and hydric (wet). The experience between the natural and built environment provided optimal opportunities for visitors, especially children, to imagine a coexistence of the systems and how they worked in a sustainably developing future. Native ecological habitats were reestablished with the swampy forested region left preserved as a sanctuary. At the northern most section people could walk on top of gabion walls that separated different filtration zones for the river. These gabion walls contained different types of rock that could remove nitrates or trap impurities. Native grasses helped sift and soak up toxins.

A. natural water filtration demo

B. restored wildlife habitat

C. amphitheater overlook

D. rip rap erosion control

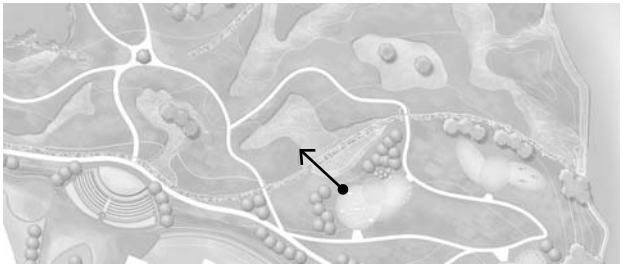
E. lowland marsh

F. elevated path

G. sustainable education space

Perspective 3

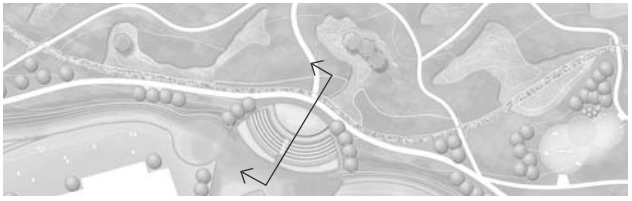
Children's learning landscape overlooking the marshland



Being elevated higher than the rest of the park space, the children's learning landscape had views towards the rest of the site sloping down towards the river. The lowland areas were designed and manipulated in a way to collect floodwaters as the river rose. These areas filled up first, allowing for walkers to continue to travel along the elevated paths. A major flood occurance would only occur in a five or ten year period. Interesting and new patterns were created with every foot of water that the river rose (Figure 7.4). The plantings that once covered the lowlands were engulfed by rain water, which gave all users an up-close interaction with water and its movement through spaces.

Figure 7.4. *Northern Marsh Park*

Amphitheater concert space



The amphitheater was designed as an active space for activities and venues. It was the transitional space between the development and the park space, while giving people the opportunity to sit and look out onto the park with children and adults engaging with the environment (Figure 7.5).

The three marsh zones displayed different qualities of plants and offered exciting experiences when one was immersed in the space, understanding that they were in a different region through varying canopy and understory trees and groundcover (Figure 7.6).

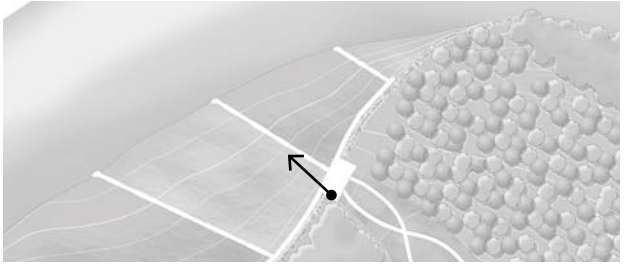
Figure 7.5.Amphitheater Section

Marsh plan zones

Figure 7.6. *Marsh Zones*

Perspective 3

Natural filtration demonstration space



The northern most edge of the site was laid out for passive pedestrian activity. Its seclusion from the rest of the park gave the space a feeling of serenity. People could strole out onto the boardwalks that overlooked the river and had views back towards the city. The paths sat on top of gabion rock walls to help aid in the demostration of cleaning and purifying the river. Native wetland grasses were planted between the walls that helped aid in the absorbtion of toxins (Figure 7.7). Its subtle, but bold statement conveyed that there are safe, natural ways cleanse water. Its demostration was replicated upstream at the gateway entrance city to the downtown and downstream. It was a continuous theme throughout the larger framework.

Figure 7.7. *Water Filtration Demonstration*

PLAN DETAILS

Vehicular accessible round-a-bout and plaza

As labeled previously, the vehicular accessible path was predominately left for pedestrians and bicycles, but did allow access to service, emergency, and local traffic that wished to set up a tent for the farmers market that took place on the weekends. Bollards protected pedestrians in the round-a-bout as cars used the space to turn around. A resting space in the center of the cirlce drive allowed people to stop and wait safely while cars drove through.

An open plaza ran adjacent to the path which also connected itself to the amphitheater. The space was left open to become active people.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CONSTRUCTION DOCUMENTATION

Grading Plan

Grading the site took significant amounts of reshaping the land. The orginal appeared flat when standing within it, but now took 23' of grade change over 1,200'. When visitors were wandering through the southern portion or northern tip, they don't notice the overall difference. The marsh's lowlands and elevated paths distract from the entire change in elevation. The railroad was elevated to accomodate the movement of pedestrians underneath it from the southern prominade.

23’

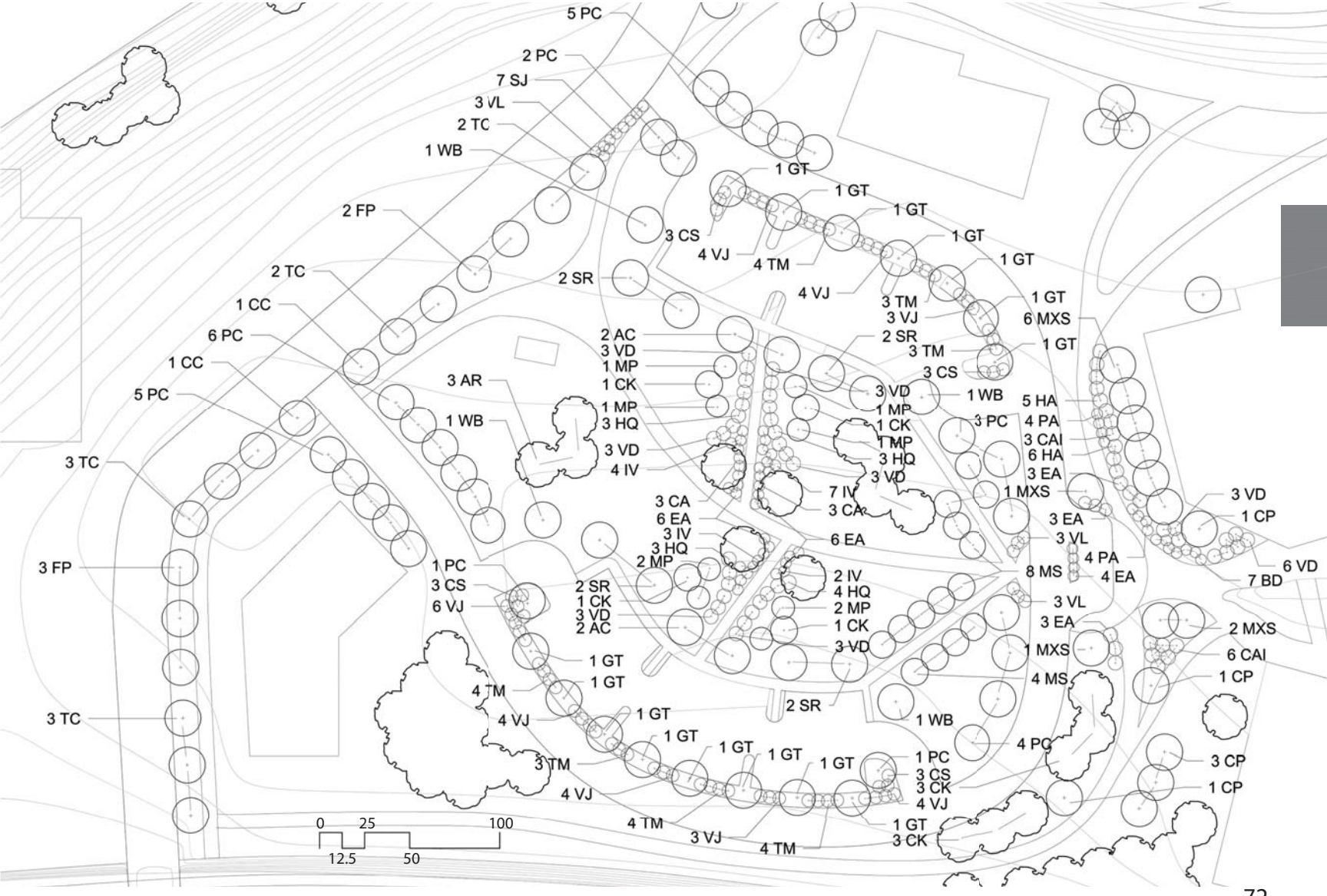
of grade change over

1200’+

Planting Plan

The planting design took advantage of the colorful selection of flowers that bloom in the spring, but also the summertime. Linear arrangements of ornamental trees helped to define the drive space as visitors first pulled into the park. The parking lots and main drive were separated by beds of Honeylocust and various shrubs to create a screen between them. Magnolias, Viburnum, Dogwoods, and Perennials help soften the building's edges and separated the pedestrians and development.

Symbol	Qty.	Scientific Name	Common Name	Notes
Deciduous Trees				
AC	4	Amelanchier canadensis ' Autumn Brilliance'	Serviceberry	
AR	3	Acer rubrum	Red Maple	
CC	2	Cercis canadensis	Eastern Redbud	
CK	10	Cladrastus kentuckea	American Yellowwood	
CP	6	Crataegus phaenopyrum	Washington Hawthorn	
FP	5	Fraxis pennsylvanica	Green Ash	
GT	15	Gleditsia triacanthos	Thornless Honeylocust	
MP	8	Myrica pennsylvanica	Common Bayberry	
MS	12	Magnolia stellata	Star Magnolia	
MXS	10	Magnolia x soulangeana	Saucer Magnolia	
PC	27	Pyrus calleryana	Pear Tree	
SR	8	Syringa reticulata	Japanese Tree Lilac	
TC	10	Tilia cordata	Littleleaf Linden	
WB	4	Betula popufolia 'Whitespire'	Whitespire Birch	
Shrubs				
CAI	9	Cornus alba 'Ivory Halo'	Ivory Halo Dogwood	
CA	6	Clethra alnifolia	Hummingbird Summersweet	
CS	12	Cornus sericea	Redosier Dogwood	
EA	25	Euonymus alatus 'Compacta'	Burning Bush	
HA	11	Hydrangea aborescens 'Annabelle'	Annabelle Hydrangea	
HQ	13	Hydrangea quercifolia	Oakleaf Hydrangea	
IV	16	Itea virginica	Virginia Sweetspire	
SJ	7	Spiraea japonica ' Goldenmound'	Goldenmound Spiraea	
TM	25	Taxus media	Wardii Yew	
VD	27	Viburnum dentatum	Arrowwood Viburnum	
VJ	36	Viburnum x judii	Judii Viburnum	
VL	9	Viburnum lentago	Nannyberry	
Perenials				
BD	7	Buddleja davidii	Butterfly Bush	
PA	8	Perovskia atriplicifolia	Russian Sage	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3 VL
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1 WB
1 PC
3 CS
6 VJ
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4 TM
3 CS
4 VJ
2 SR
2 AC
3 VD
1 MP
1 CK
1 MP
3 HQ
3 VD
4 IV
3 CA
6 EA
3 IV
3 HQ
2 MP
2 SR
1 CK
3 VD
2 AC
1 GT
1 GT
1 GT
1 GT
1 GT
1 GT
1 GT
1 GT
1 GT
3 CK
2 SR
2 IV
4 HQ
2 MP
1 CK
3 VD
6 EA
7 IV
3 CA
1 WB
3 TM
3 VJ
1 GT
6 MXS
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3 VD
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3 VD
1 WB
3 PC
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4 PA
3 CAI
6 HA
3 EA
1 MXS
3 EA
3 VL
4 PA
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3 VL
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1 MXS
4 MS
1 WB
4 PC
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3 VD
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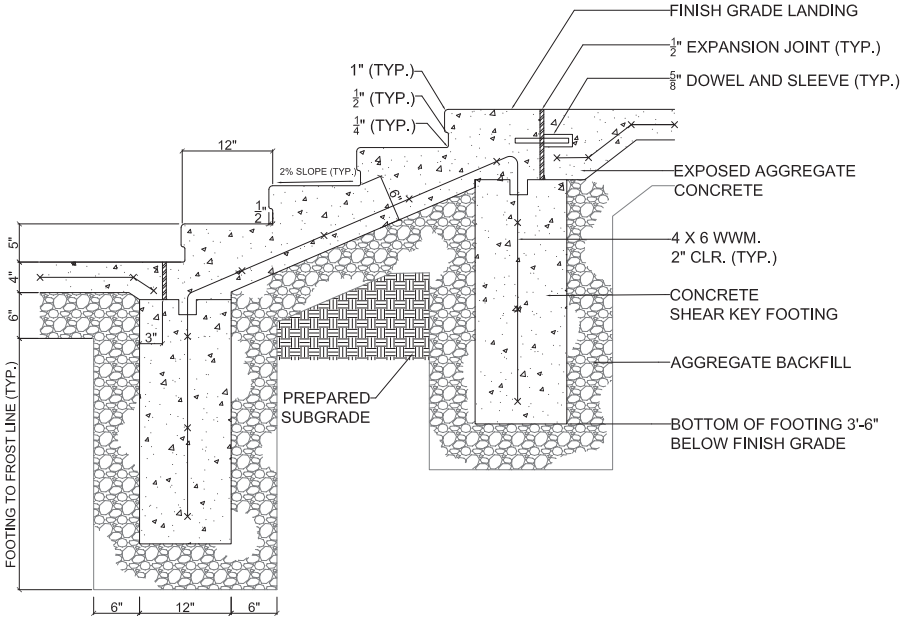
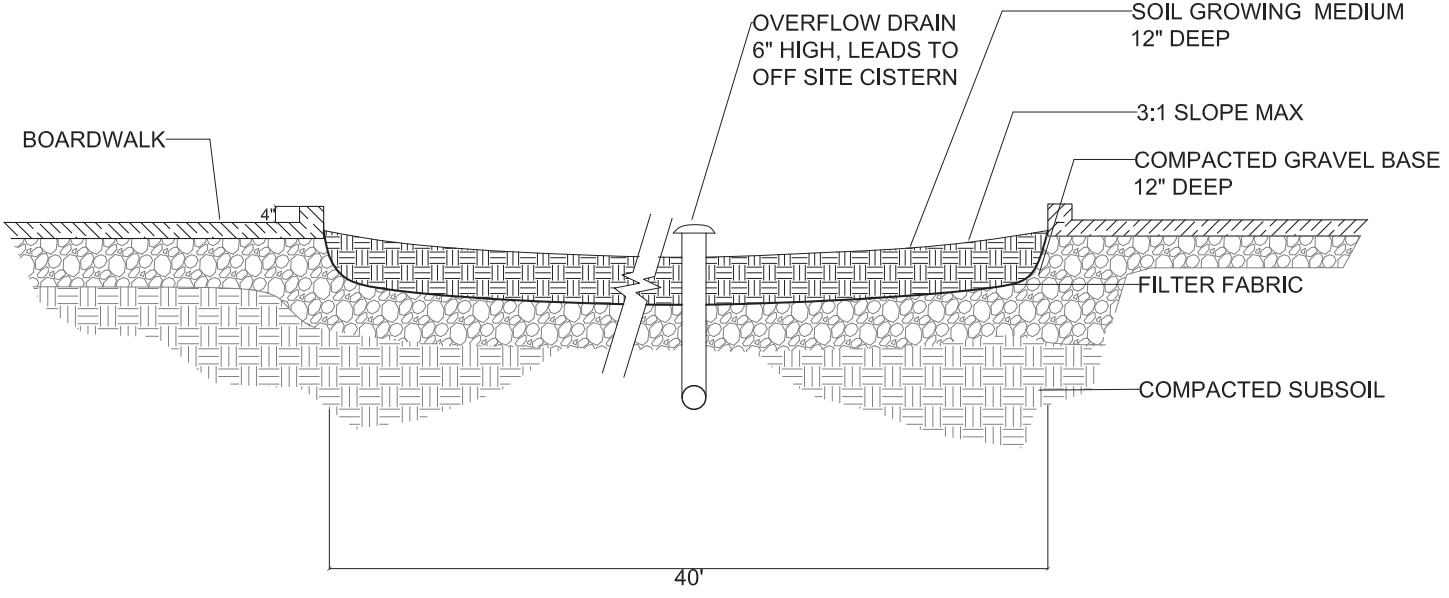
Construction Details

These were two typical details on the site. The stairs were representative of those leading into the site after walking through the railroad tunnel. The next detail displays the water retention basins that cut through the development.





SUMMARY

Fort Wayne did not have a lack of open space in and around the downtown region. This site created a new definition of what a park and developed riverfront could mean for the community members. After careful analysis of circulation patterns and building inventory, just one original structure was preserved while all other buildings were newly constructed, but with historic character. The introduction of laboratory space for Indiana Tech University students would ultimately lead to the creation of several new degree programs aimed at the idea of environmental planning, design, and sustainable technologies. As these grew and developed, the spaces became more active and generated interaction between children, students, and adults within the surrounding neighborhoods.

The success of the northern park began with the children's learning landscape. The space was only as functional as people made it and the implementation of demonstration equipment and playgrounds allows children and adults to interact with each other and nature. The entire area was open for educational exploration and passive recreation for the public. The new Wayne Center Innovative Park had a great location that would draw thousands of people in. Further expansion of the Rivergreenway translated into more exposure and curiosity as pedestrians and bicyclists traveled by. This park created a new identity for the city of Fort Wayne as they moved towards a sustainable future, demonstrating positive effects of technology and a future of innovative design.

APPENDIX A

Definitions

Greyfield: A site that had previously developed buildings that are now abandoned, but still available for redevelopment

Brownfield: A site that had previously been occupied by a building or industry that after years of decline has leached toxins into the soil where it is now considered contaminated.

Urban Park: A parcel of developed park land that is within the confines of city boundaries.

Sustainability: An idea that there is potential for a long-term span of positive environmental, economical, social, and cultural networks.

Sustainable Education: A philosophy that children can be visually, auditory, and kinesthetically taught fundamental ideas of ecological, economic, and social sustainability.

Sustainable Design: A layout of land systems that takes into account the sustainability of the features as they perform on site.

Mixed-Use: A building structure that incorporates multiple uses for people such as retail, offices, and residential.

Floodplain Control Methods: A series of techniques implemented along a riverfront park that help reduce and control the amount of flooding that occurs on the site.

Natural Pool: A constructed body of water that is purified and cleansed through natural processes of bacteria and plants, without the use of toxic chemicals.

Research Park: Research facilities that can be sometimes linked to a larger corporation or university for advanced studies.

Invasive Plants: Non-native plants that have the tendency to spread easily.

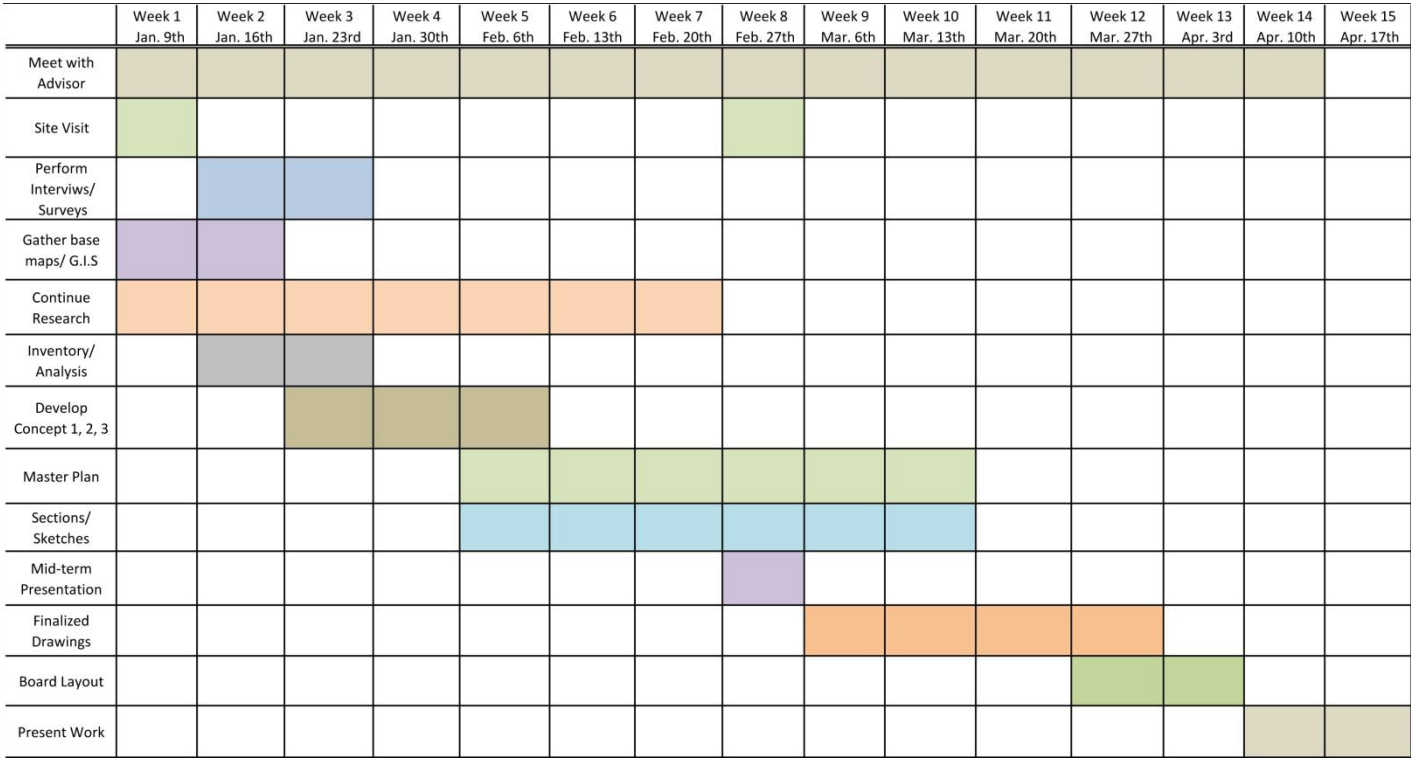
APPENDIX B

Photographs

The site's existing buildings were in dire need of revitalization or demolition. There were interesting characteristics to the architecture that was shown throughout. As seen, the northern half was bleak, but provided the greatest opportunity to reshape the land and transform it from past conditions.

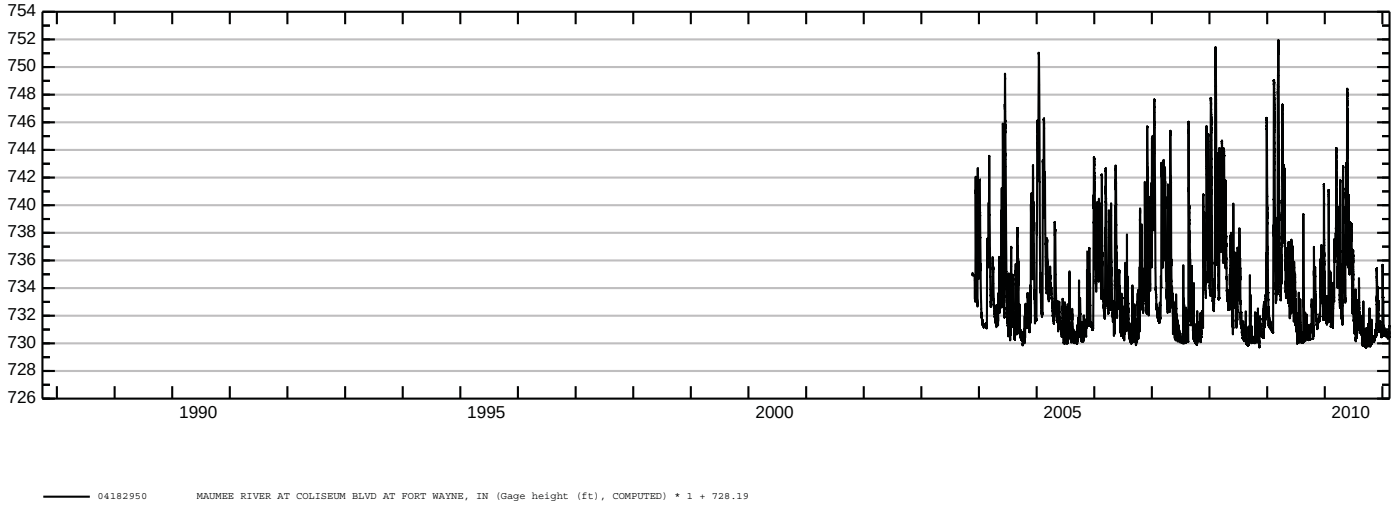
APPENDIX C

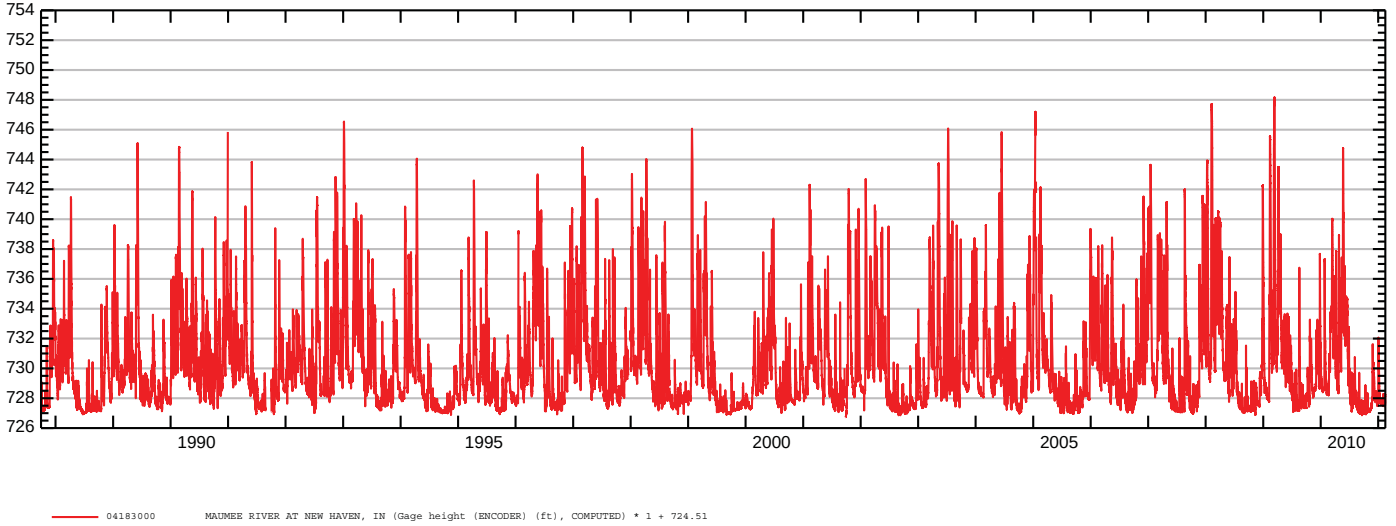
Time Line



APPENDIX D

Flood Stage Plots





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